

**NATURAL RESOURCES CONSERVATION SERVICE
MINNESOTA CONSERVATION PRACTICE STANDARD**

FOREST TRAILS AND LANDINGS

(Acre)
CODE 655

DEFINITION

A route, travel-way or cleared area within a forest.

PURPOSE

- To provide access for removal and collection of a forest products.
- To provide access to forest stands for management.
- To provide access to forest stands for recreational activities.
- Minimize onsite and off-site damage to resources during periods of access.

CONDITIONS WHERE PRACTICE APPLIES

On forested areas.

CRITERIA

General Criteria Applicable to All Purposes

- Timing and use of equipment will be commensurate with site and soil conditions to maintain site productivity and minimize soil erosion, displacement and compaction.
- In Minnesota forests, the majority of sediment leaving a forested watershed originates from logging operations and associated trails and landings.
- Trails and landings will be of a size, gradient, number and location to economically and efficiently accomplish the intended purpose and expected users and equipment. They shall be configured to minimize adverse onsite and off-site impacts such as accelerated erosion, riparian zone degradation, stream channel and streambank damage, hydrology modification, other water resource damage, aesthetics or unacceptable damage to advance regeneration,

residual growing stock, wildlife habitat, fragmentation, or restrict wildlife movement. For roads requiring a fixed route of travel see Minnesota NRCS Standard #560-Access Road.

- Slash, debris and vegetative material left on the site after harvesting will not present an unacceptable fire or pest hazard or interfere with the intended purpose.
- Slash, debris, and rocks will be placed a minimum of four feet from the edge of all landings and harvest trails and will be piled to a height not to exceed four feet.
- Water bars, broad based dips, box culverts and other drainage and erosion control measures for trails shall be of sufficient size, intervals and gradient for adequate drainage and erosion control. See MN/DNR publication "Voluntary Site-Level Forest Management Guidelines" for specifications.
- Concentrated surface water from landings, trails, and loading areas will be disposed of in a non-erosive manner utilizing applicable Minnesota NRCS Standards such as: Grassed Waterway-412, Grade Stabilization Structure-410, Channel Vegetation-322, Diversion-362, Sediment Basin-350, and Water and Sediment Control Basin-638.
- Trails and landings shall be sufficiently re-vegetated to control erosion. See Tables 1-3 for general seeding recommendations. Consult Minnesota NRCS Standard # 342-Critical Area Planting for additional recommended seeding mixtures for erosion control.
- Comply with applicable state, federal and local laws and regulations during the installation, operation and maintenance of this practice.

NRCS-Minnesota
March 2001

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

CONSIDERATIONS

- Assure safe ingress and egress to site.
- Locate landings and trails to preserve aesthetic qualities.
- Discontinue hauling and harvesting operations when rutting exceeds 6 inches in depth.
- Police landings and trails to remove refuse and garbage. Report lubricant, solvent and fuel spills directly to Minnesota Duty Officer Hotline - 1-800-422-0798 in areas outside the metro area.
- Trails may be closed for erosion control, safety and liability, and reduced maintenance costs.
- Landings and trails may be used for recreation, firebreaks as well as wildlife food and cover plantings.
- Fertilizer application timing and methods will minimize nutrient loss due to erosion, runoff and leaching.
- Consider cultural resources and environmental concerns such as threatened and endangered species of plants and animals, natural areas and wetlands.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using approved NRCS Standards, specification sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

Specifications for revegetation of landings and trails should include species, timing and method of application.

Consult MN/DNR publication: "Voluntary Site-Level Forest Management Guidelines" for additional information on planning and applying Best Management Practices (BMP's). This handbook is available through MN/DNR Forestry Division, 500 Lafayette Road St. Paul, MN 55101.

Seeding Mixtures for Forest Trails and Landings

<i>Table 1 - Shaded Woodland</i>
1. "Lathco" flatpea *, 30 lb; Orchardgrass, 10 lb; Timothy, 3 lb.
2. Creeping Red Fescue, 6 lb; Timothy, 2 lb; Red or White Clover,* 3 lb.

NRCS-Minnesota
March 2001

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| 3. Tall fescue, 12 lb; "Lathco" flatpea,* 20lb; Timothy, 3 lb. |
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Table 2 - Seedings for Wooded Edges and Landings

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| 4. White Clover,* 2 lb; Timothy, 3 lb; Tall Fescue, 10 lb; Perennial Rye, 3 lb. |
| 5. White Clover,* 2 lb; Redtop, 1 lb; Timothy, 2 lb; Perennial Rye, 3lb. |
| 6. Orchardgrass, 10 lb; 'Ladino' Clover,* 2 lb; Redtop, 1 lb; Perennial Rye, 3 lb. |

Table 3 - Seeding Beneficial to Wildlife (open/partial shade)

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| 7. White Clover,* 4lb; Red Clover,* 3 lb; Alsike Clover,* 2 lb; Timothy, 1 lb; Kentucky Bluegrass, 1 lb. |
| 8. White Clover,* 4 lb; Red Clover,* 2 lb; Alsike Clover,* 2 lb; Timothy, 1 lb; Orchardgrass, 3 lb; Red Fescue, 1 lb. |

All seeding rates are expressed in PURE LIVE SEED (PLS).
Seeding method is considered BROADCAST.

Apply lime and fertilizer according to needs determined by a soil test. In the absence of a soil test apply 500 lbs. or equivalent of 12-12-12. Apply mulch at a rate of 1 1/2 to 2 tons per acre of unweathered hay or straw.

* These legumes must be inoculated before planting.

OPERATION AND MAINTENANCE

Watercourses and water quality shall be protected during and after removal and transport of trees. Temporary bridges will be removed with channels and banks stabilized. See Minnesota NRCS Standards: Stream and Shoreline Protection - 580 and Stream Channel Stabilization - 584. Upon completion of harvest all loading areas, landings and trails will be left in a stable, vegetated condition.

Periodic inspections of landings and trails will be conducted and where necessary repairs will be made.

Landings and trails no longer needed can be discontinued by removing high maintenance structures, such as culverts and bridges, and can be restored to a vegetative cover by planting and seeding.